



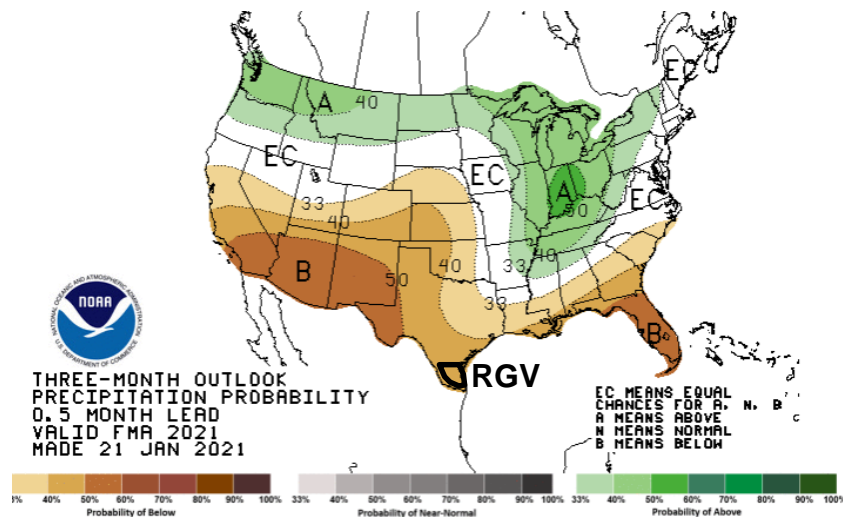
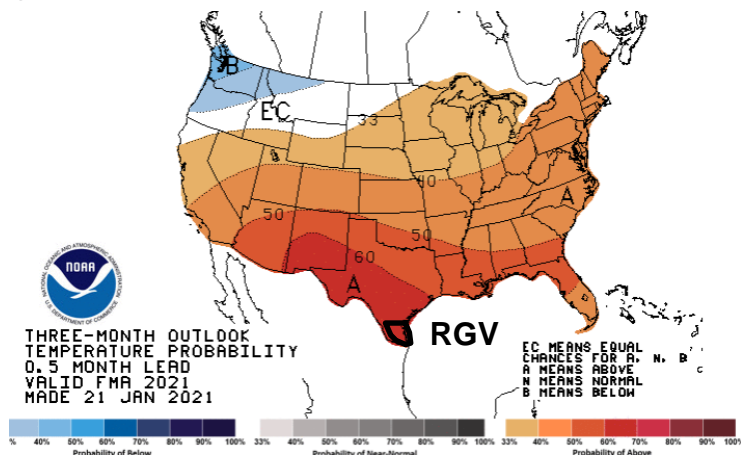
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NOAA February to April 2021 Outlook Perspective for the Rio Grande Valley/Deep S. Texas Region

January 21, 2020

Barry Goldsmith, NWS Brownsville/Rio Grande Valley, Texas



Key Takeaways

- Above to much above average temperatures and below average precipitation is forecast
- Based on this forecast becoming reality:
 - **Drought** will **worsen by the end of April**. **Extreme Drought** will cover most agricultural areas with developing pockets of **Exceptional Drought** by April 30th.
 - **Wildfire spread threat will increase through the season**, based on the combination of remnant fuel “loading” with fuels that continue to remain/become very dry (“cured”). March and April could be particularly ripe in low humidity events
 - **Municipal and Agricultural water shortages** are likely to become an issue in mid to late spring as Falcon Reservoir remains low to begin the season
 - The threat for **Widespread Severe Weather (Wind/Hail)** is slim to none, but local events cannot be ruled out.



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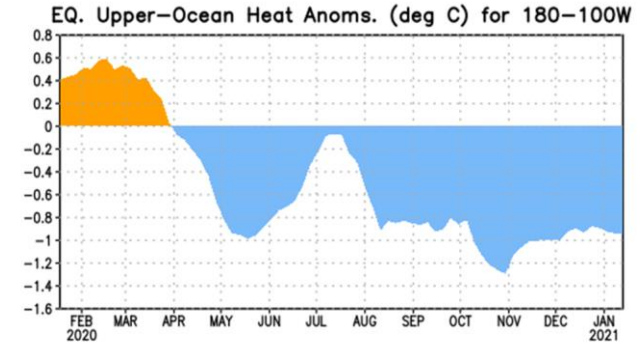
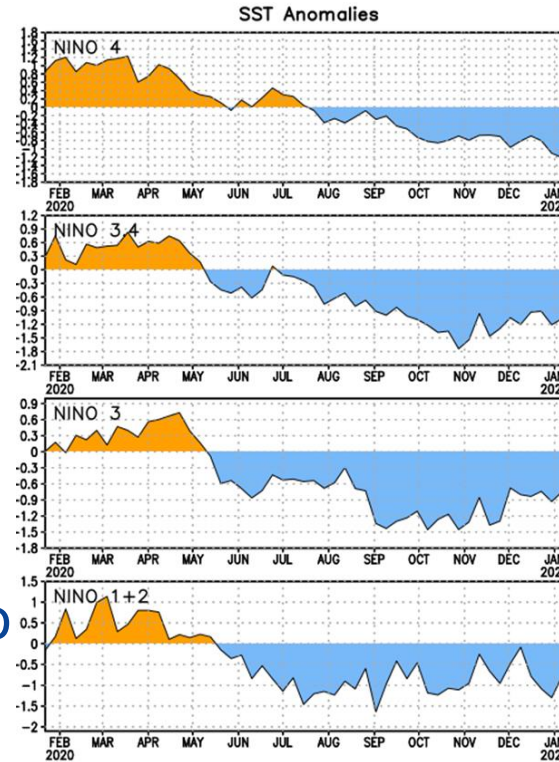
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The “Why” of the Forecast: La Niña, Locked In

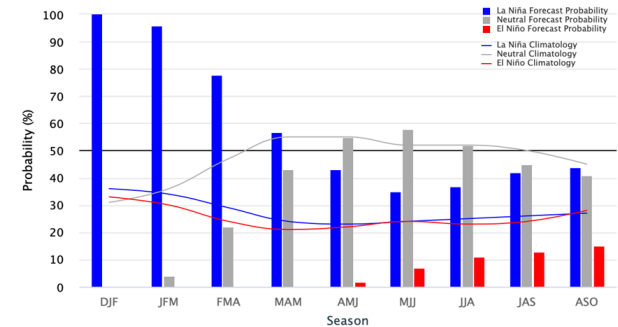
- Moderate La Niña continues (blue colored areas; -1 to -1.5), and should remain so through March or April
- Persistent warmth over several years in the southwest U.S./northern Mexico is expected to continue

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2020	0.5	0.6	0.5	0.3	0.0	-0.2	-0.4	-0.6	-1.0	-1.2	-1.3	



Early-January 2021 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C



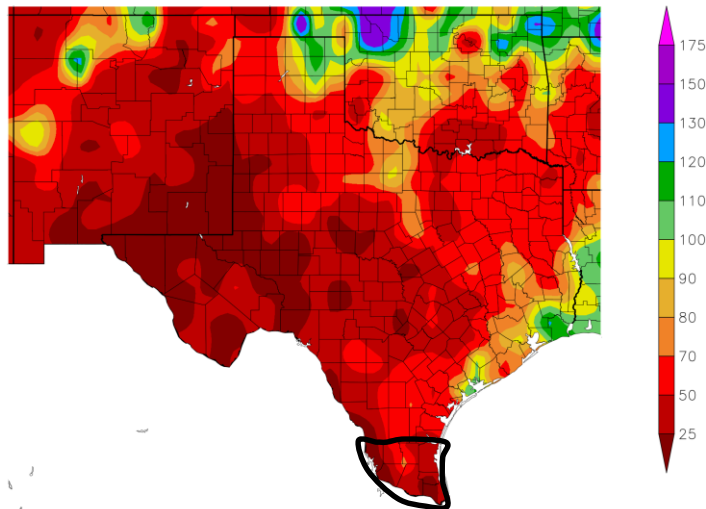
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October through December 2020: Setting the Table

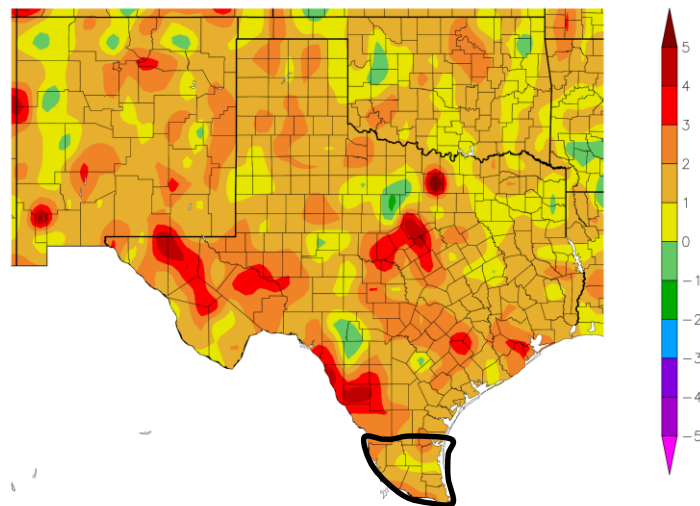
Percent of Normal Precipitation (%)
10/1/2020 – 12/31/2020



Generated 1/20/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
10/1/2020 – 12/31/2020



Generated 1/20/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Dry to Very Dry Compared with Average. Rainfall generally 0.5 to 2 inches (average: 4 to 6 inches)
- Temperatures 1 to 3 degrees above average; November was well above (4 to 6 degrees), while October and December were closer to average (1 to 2 degrees)
- Due to frequent “dry” fronts, drought worsened rapidly by the end of 2020

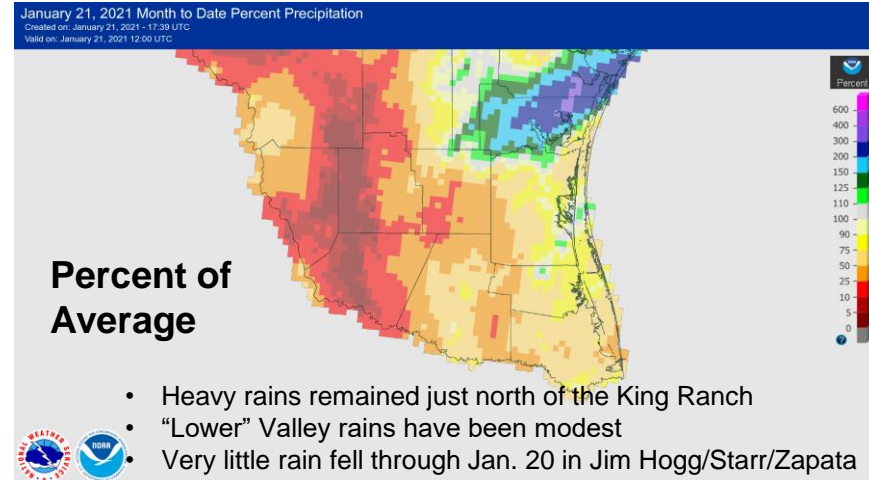
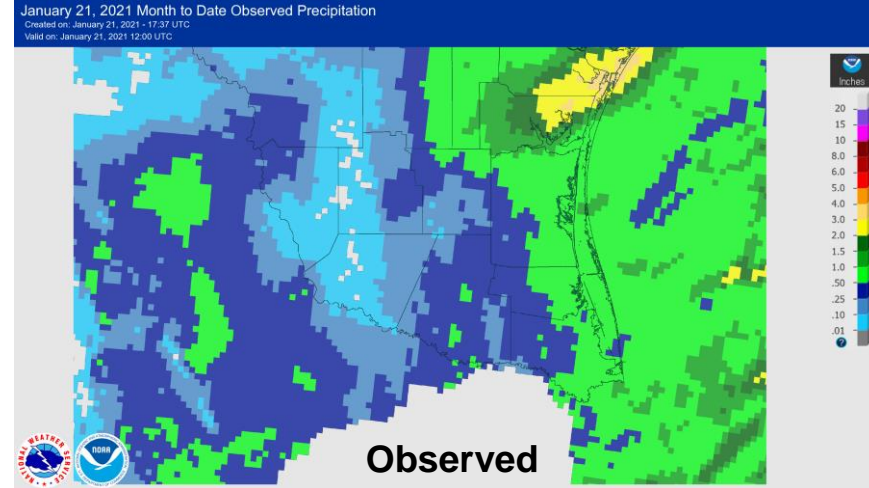


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January 2021 So Far...

- Dry, with more “cooler” days than “warmer” days. Main rain along the coast.
- Temperatures (through 20th) were about 1-2 degrees below average
- Minor ranchland freezes on January 1, 13, and 16 (Zapata to Kenedy; N. Hidalgo and W. Willacy)
- Just one “cold” rain day, January 9/10 – mainly along/east of US 77
- Most fronts came through “dry”, except January 10.
- Fuels (grasses/brush/small trees) remained “cured” across most inland areas; worsened by minor freezes



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2020 Temperatures: Top Five Warmest; Nearly All-Time for Some

Maximum 1-Year Mean Avg Temperature
for Brownsville Area, TX (ThreadEx)

Click column heading to sort ascending, click again to sort descending

Rank	Value	Ending Date	Missing Days
1	77.3	2012-12-31	0
2	77.2	2020-12-31	0
3	77.2	2017-12-31	0
4	76.6	2019-12-31	0
5	76.4	2016-12-31	0
6	76.4	2018-12-31	0
7	76.1	2011-12-31	0
8	76.0	2006-12-31	0
9	75.8	2005-12-31	0
10	75.8	1902-12-31	46
Period of record: 1878-01-01 to 2021-01-13			

Maximum 1-Year Mean Avg Temperature
for McAllen Area, TX (ThreadEx)

Click column heading to sort ascending, click again to sort descending

Rank	Value	Ending Date	Missing Days
1	79.5	2016-12-31	0
2	79.5	2017-12-31	0
3	78.3	2012-12-31	0
4	78.2	2009-12-31	0
5	77.8	2020-12-31	1
6	77.7	2018-12-31	3
7	77.7	2011-12-31	2
8	77.6	2019-12-31	1
9	77.1	1999-12-31	0
10	76.9	1998-12-31	3
Period of record: 1941-06-01 to 2021-01-13			

Maximum 1-Year Mean Avg Temperature
for HARLINGEN, TX

Click column heading to sort ascending, click again to sort descending

Rank	Value	Ending Date	Missing Days
1	77.4	2017-12-31	36
2	77.0	2020-12-31	34
3	77.0	2016-12-31	17
4	76.6	1945-12-31	18
5	76.4	1946-12-31	26
6	76.4	2012-12-31	14
7	76.3	1957-12-31	10
8	76.3	2019-12-31	47
9	76.3	1950-12-31	1
10	76.0	2006-12-31	13
Period of record: 1912-02-07 to 2021-01-13			

- Brownsville – Five of six warmest years on record (back to 1878), will include **the most recent five (2016-20)**
- McAllen has at least **eight of the top ten warmest years since 2009** (records back to 1942)
- Harlingen missed a number of critical days during hot spells in 2018. **Actual 2018 ranking (not shown) could be in the top five.**

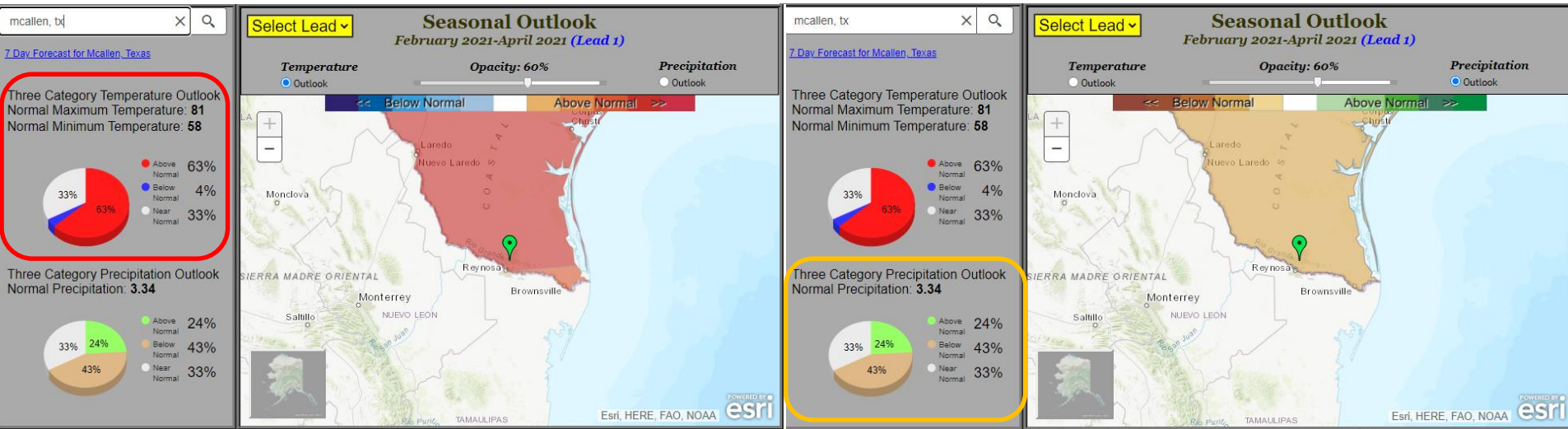


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The Feb-Apr 2021 Outlook: Rio Grande Valley (McAllen as Anchor Point)



- **Temperature:** A 63% chance of above average. Seasonal average – Afternoons, Rising from ~73 (on 2/1) to ~89 (on 4/01). Mornings: Rising from 52 (2/1) to the upper 60s (4/30). Just a **4% chance** of below average in 2021.
- **Precipitation:** A 43% chance of below average. Seasonal average: 3 to 4 inches of rainfall
- Probability of above average precipitation is 24 percent.

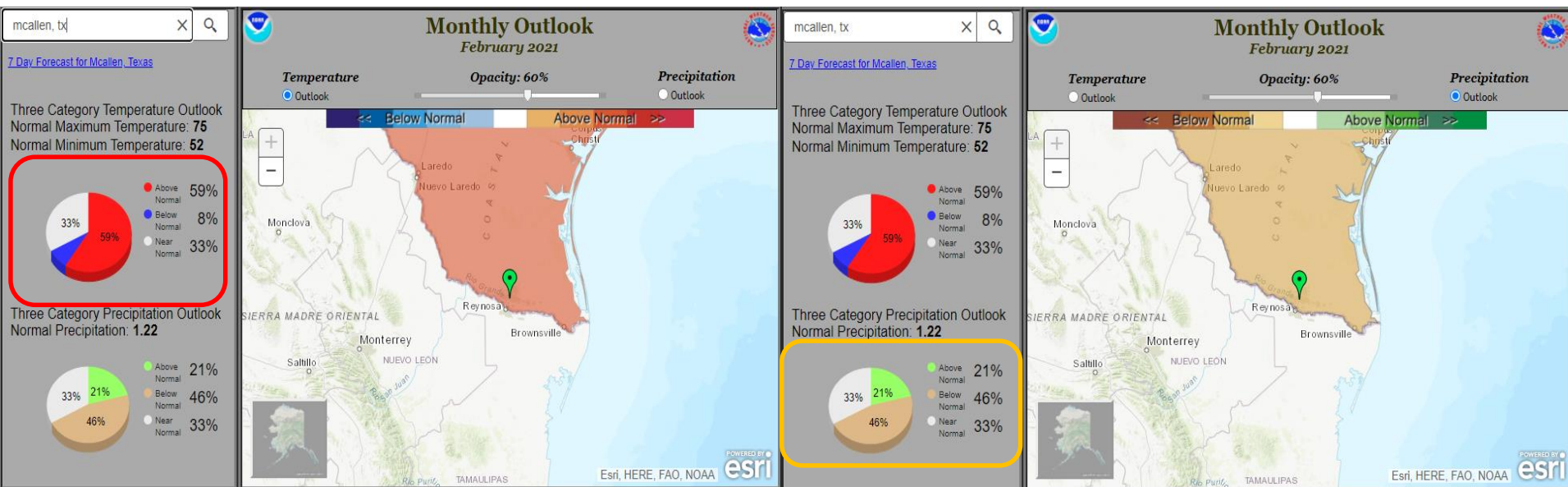


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February Outlook: Rio Grande Valley (McAllen as Anchor Point)



- **Temperature:** A 59% chance of above average. Monthly average – Afternoons, Rising from 73 to 77. Mornings: Rising from 50 to 56 (highest by 28th). Just an **8% chance** of below average.
- **Precipitation:** A 46% chance of below average. Monthly average: 1 to 1.5 inches of rainfall. A **21% chance** of above average.



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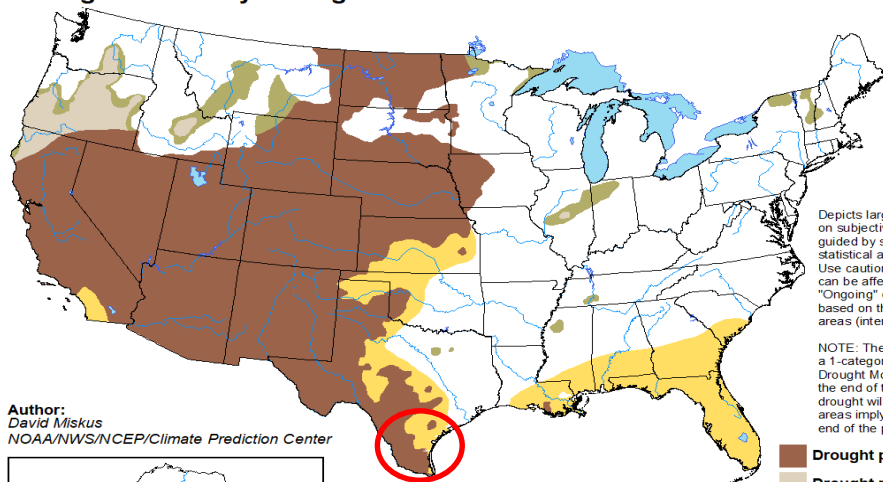
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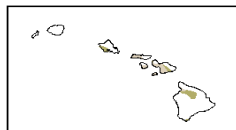
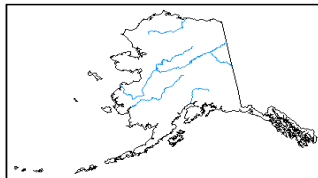
The “Droughtlook”

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for January 21 - April 30, 2021
Released January 21



Author:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. “Ongoing” drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

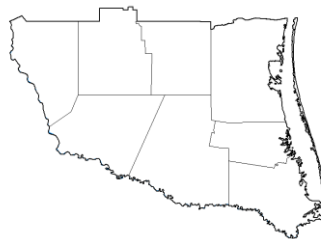
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>

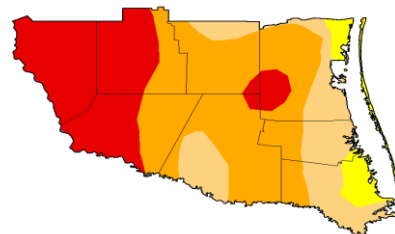
Observed: October 6, 2020



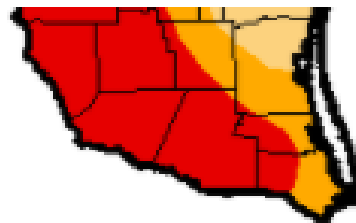
Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)

Observed: January 21, 2020



April 26, 2011*



*Analog assumes very warm/dry conditions prevail

- Conditions should deteriorate similar...or more...than 2011 (right).

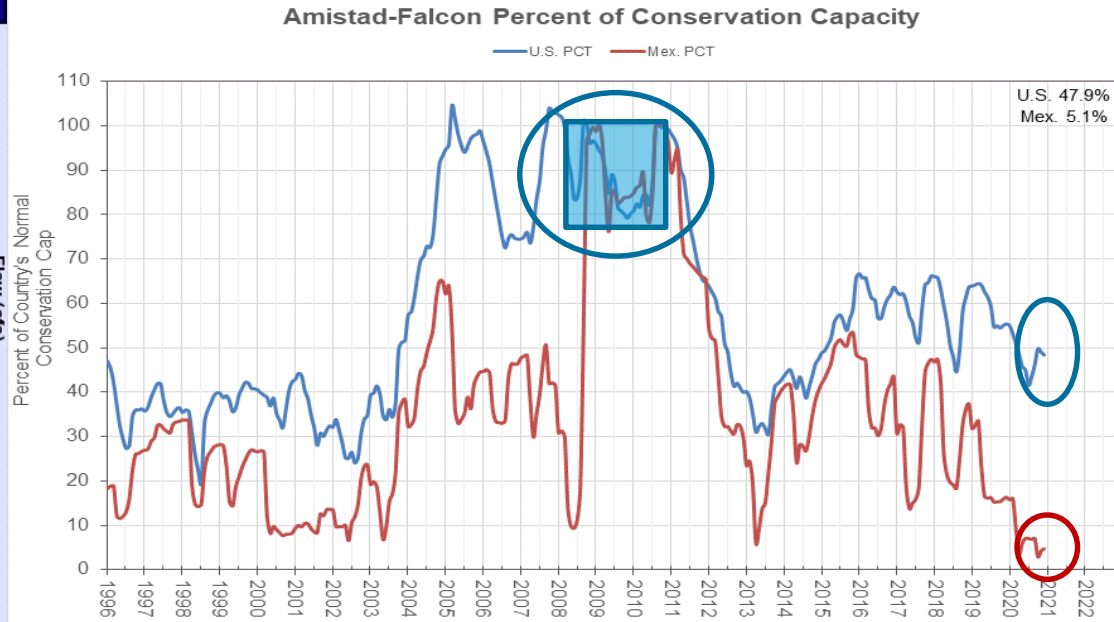
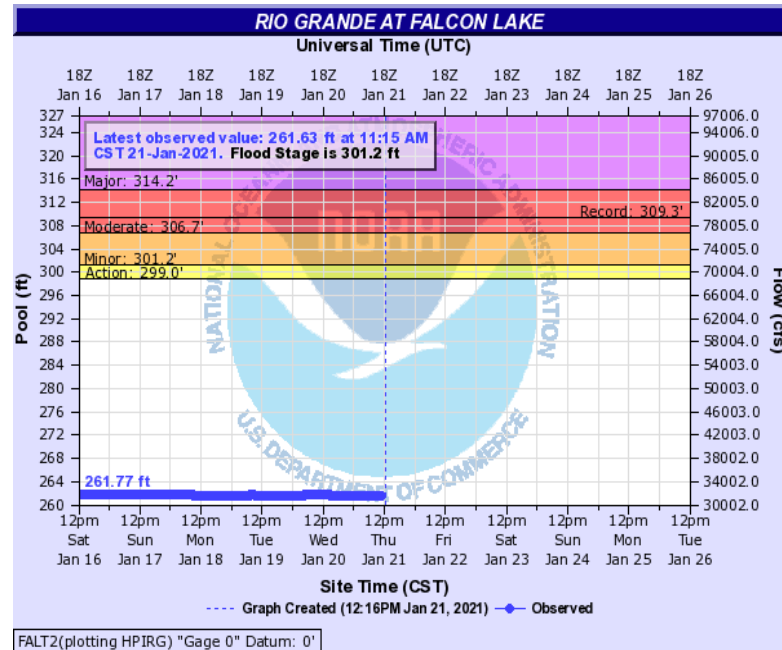


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Falcon Reservoir was low to in early 2021



- January 2021 total capacity, Falcon Reservoir: **19 percent**
- January 2011 total capacity, Falcon Reservoir: near **100 percent**



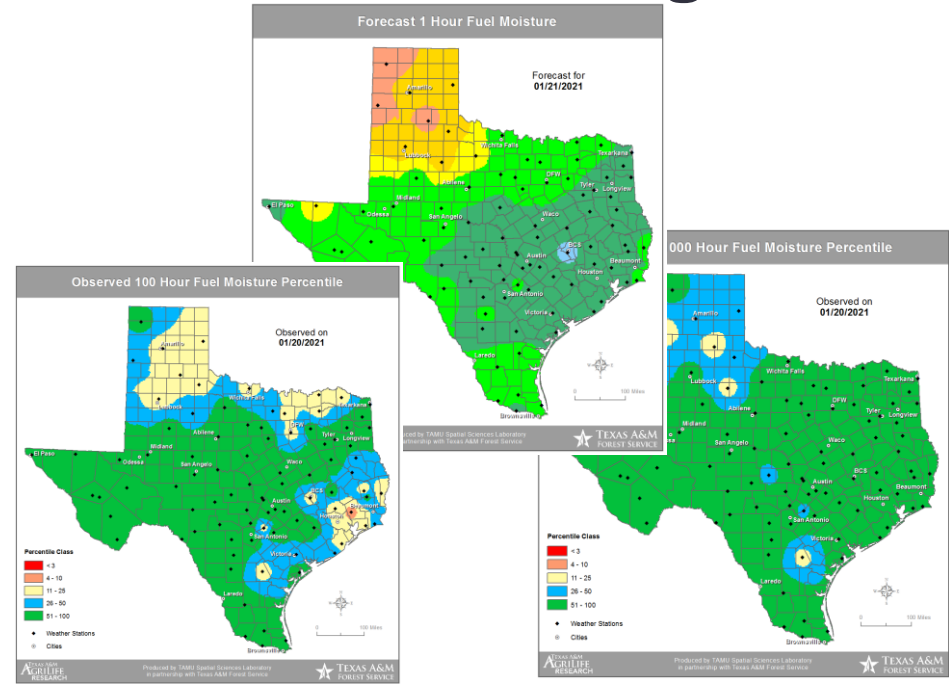
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Wildfire Spread Potential Builds into Spring 2021

- 1-hour fuels (grasses) were frequently dry during the first half of January 2021, but moistened temporarily around the 20th. Winter grazing can help reduce this fuel load.
- 10, 100, and 1000 hour fuels (brush and timber) should continue to turn dry into late winter and spring 2021, and be “tinder” for rapid wildfire spread.



Rio Grande Valley/Deep S. Texas Region should see a resumption of decreasing moisture content for brush and timber (100 and 1000 hour fuels), as evaporation rates increase and beneficial rainfall seldom occurs.



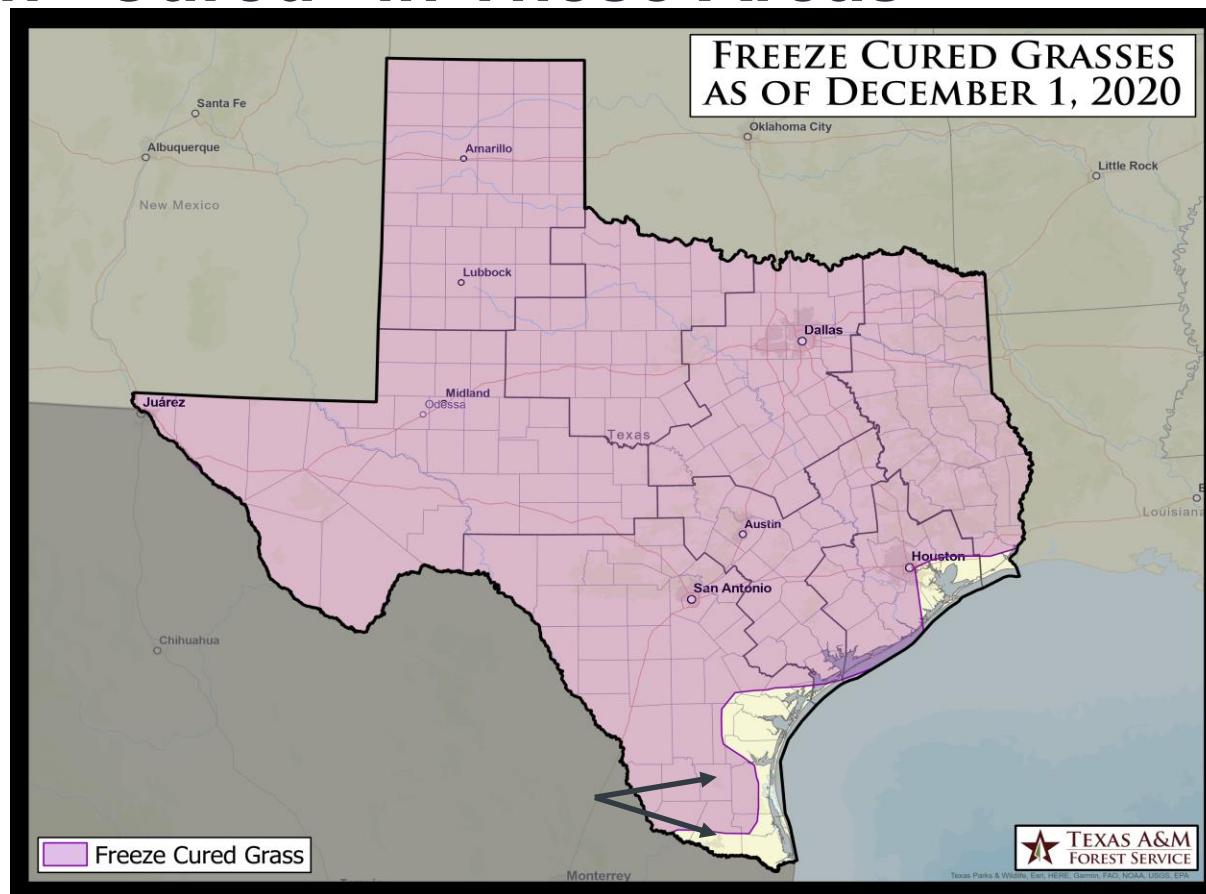
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Fuels Remain “Cured” in These Areas

- Dry/Occasional “Flash Dry” Conditions Have Maintained Curing, Mainly along/west of US 281/IH 69C
- Additional Light Freezes (Jan 1, 13, and 16) have exacerbated the issue



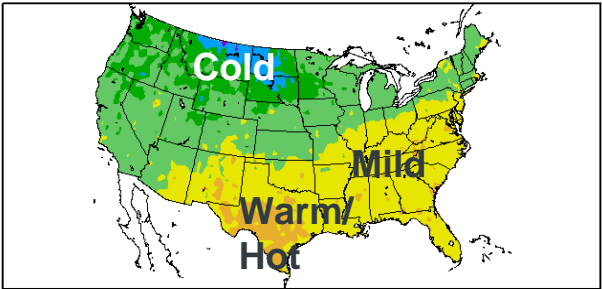
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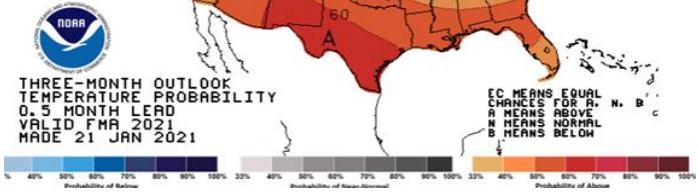
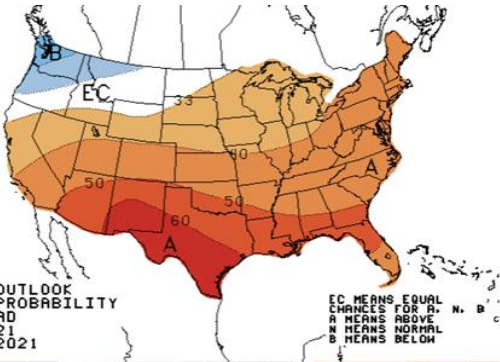
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2021 vs. 2011

Departure from Normal Temperature (F)
2/1/2011 – 4/30/2011

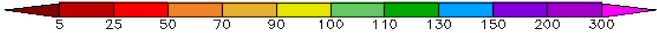
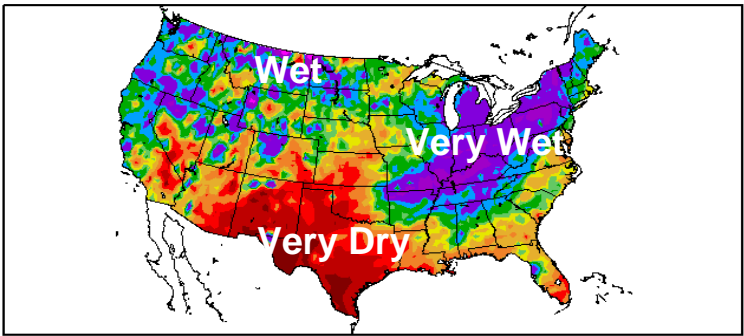


Generated 6/15/2012 at HPRCC using provisional data. Regional Climate Centers

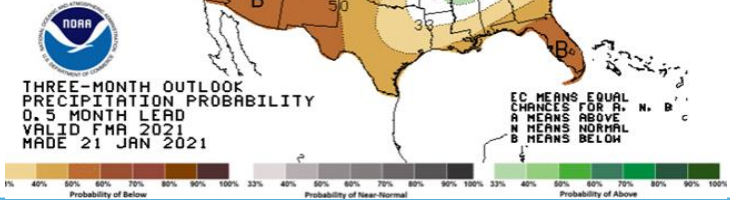
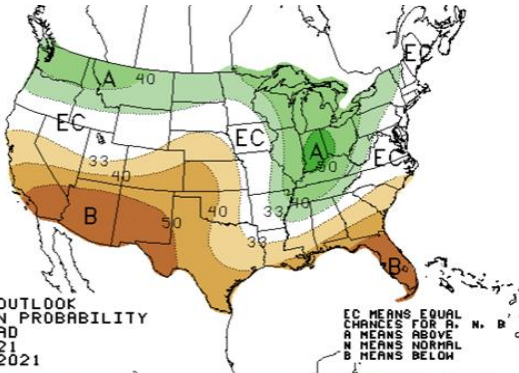


Observed
Feb/Apr 2011

Percent of Normal Precipitation (%)
2/1/2011 – 4/30/2011

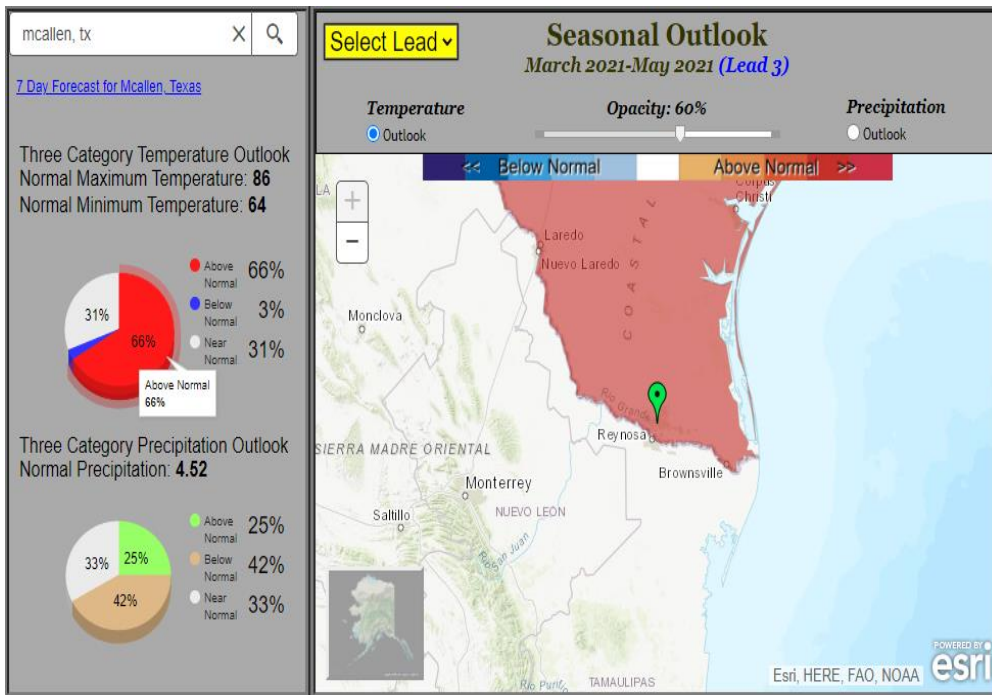


Generated 6/15/2012 at HPRCC using provisional data. Regional Climate Centers

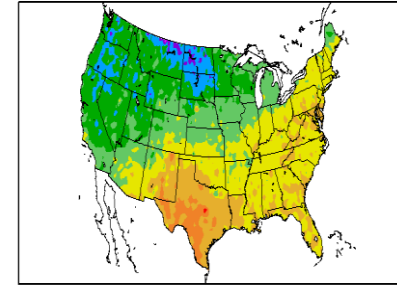


Forecast
Feb-Apr
2021

Spring (March-May) 2021 Outlook: It May Look Like 2011



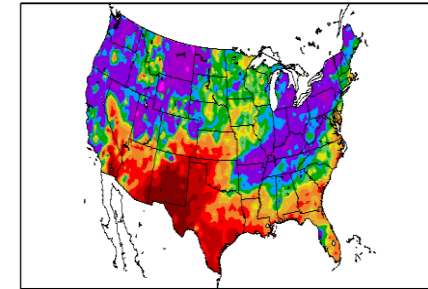
Departure from Normal Temperature (F)
3/1/2011 – 5/31/2011



Generated 6/15/2012 at HPRCC using provisional data.

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Percent of Normal Precipitation (%)
3/1/2011 – 5/31/2011

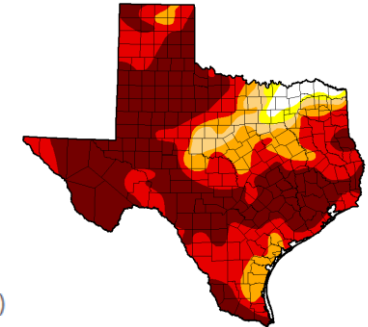


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Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)



Drought, May 31, 2011



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In Summary: Impacts and Actions

- **Finalize wildland management plans** ahead of what is likely to be an active wildfire growth period in spring and perhaps early summer 2021.
- Increasing confidence in **extreme** to locally **exceptional** drought by early mid-spring 2021 (April) means **now is the time** to look at agriculture and municipal water plans in case of shortages.
- Begin to gear up for **early onset of summer-like heat**, particularly during April. Heat index, or “feels like” temperatures, could rise above 105 at times. This could cause heat stress in some people due to lack of acclimation.
- Actual temperatures – especially in low level west to southwest flow – could hit 100°F as early as late February, from Brooks/Hidalgo Counties out to Zapata. **Several 100°F afternoons are possible** by the end of April in these areas.



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